

Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Acrylic bathtubs and shower trays by RAVAK a.s.

Programme:	"National Environmental Labeling Program" - Czech Republic (NPEZ)
Programme operator:	Ministry of the Environment of the Czech Republic, CENIA, Czech Environmental Information Agency, executive function of the NPEZ Agency
EPD registration number:	3015-EPD-030066366
Publication date:	2024-08-15
Valid until:	2029-08-15

An EPD should provide current information and may be updated if conditions change.



General information

Programme information

Programme: “National Environmental Labeling Program” - Czech Republic (NPEZ)

Address: Ministry of the Environment of the Czech Republic
Department of Voluntary Instruments
100 10 Praha 10, Vršovická 1442/65

Website: www.mzp.cz, www.cenia.cz

E-mail: info@mzp.cz

Accountabilities for PCR, LCA and independent, third-party verification

Product Category Rules (PCR)

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)

Product Category Rules (PCR): EN 15804:2012+A2:2019/AC:2021

Life Cycle Assessment (LCA)

LCA accountability: RAVAK a.s.

Third-party verification

Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:

☒ EPD verification by accredited certification body

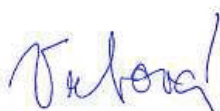
Third-party verification:

Technický a zkušební ústav stavební Praha, s.p. is an approved certification body accountable for the third-party verification.

190 00 Praha 9, Prosecká 811/76a, CZ

The certification body is accredited by: **Český institut pro akreditaci, o.p.s., Osvědčení č. 456/2024**

Verifier: Ing. Lenka Vrbová




Procedure for follow-up of data during EPD validity involves third party verifier: ☐ yes ☒ no

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner EPD: RAVAK a. s.

Contact:

Obecnická 285, 261 01 Příbram I, CZ

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Description of the organization Ravak a. s.

For over 30 years, we have been gaining experience and know-how in creating high-quality bathroom products with refined design. Our goal is to transform the bathroom into a space where our clients can retreat to find relaxation and moments of peaceful cleansing for many years.

With our products, clients can design a perfect bathroom tailored to their taste. Our range includes bathtubs, shower enclosures and trays, washbasins, sanitary ceramics, bathroom furniture, taps, accessories, and other complementary items.

We strive to ensure that our products meet the highest quality standards. We can guarantee this quality because we closely monitor every stage of production—starting with the

careful selection of raw materials, continuing through the manufacturing process, and concluding with final inspections. This approach results in products with a very long service life, offering savings not only for our clients but also for the environment.

Reducing the carbon footprint in our production facilities is one of our top priorities. We adopt modern technologies, such as utilizing residual heat, operating our own water treatment plants, and increasingly relying on solar energy. By manufacturing primarily in the Czech Republic and other European Union countries, we minimize the logistical impact of transportation. Another important part of our activities is our transition to fully recyclable materials for packaging.

Certifications related to product or management system:

The quality of our products is ensured by the implementation of a quality management system in accordance with EN ISO 9001, and it complies with technical regulations relevant to the product type. The manufacturer has implemented a production management system aligned with the requirements of harmonized standards and issues a Declaration of Performance (DoP) for these products.

Name and location (address) of manufacturing sites:

Obecnická 285, 261 01 Příbram I, CZ

Product information

Product name: Acrylic bathtubs and shower trays

Product identification: Three types of acrylic products manufactured—bathtubs, shower trays, and panels.

Product description: Bathtubs

RAVAK acrylic bathtubs are available in a variety of shapes and sizes, suitable for both small and large bathrooms. Based on their design, they are divided into three categories: freestanding, corner, and rectangular.

Rectangular bathtubs are offered in lengths from 120 to 180 cm and widths of 70, 75, and 80 cm. Corner bathtubs are manufactured in sizes up to 139 × 196 cm. Freestanding bathtubs are available in lengths ranging from 166 to 180 cm and widths of 80 to 86 cm.

As optional accessories for bathtubs, we provide bathtub supports that are essential for proper installation and ensuring long product life.

Cooperation with renowned designers brings us not only prestigious awards but also enables us to create unique, timeless products.

As for the quality of our products, RAVAK acrylic bathtubs retain their shape and resist cracking because they are made of high-quality cast PMMA acrylic, which maintains its physical properties over time. We use unfilled resin (pure resin without additives), ensuring the required strength and durability of the laminated layer that protects and reinforces the acrylic molded part. Our extensive experience with this material allows us to guarantee its reliability and resilience, which is why we offer an extended warranty on our bathtubs.

In addition, acrylic has a significant advantage—it is easily repairable, which greatly extends the lifespan of our products and ensures their long-term usability.



Product description: Shower trays

We offer acrylic shower trays in two designs: quadrant and corner (square and rectangular). They come in various depths, with one of the deeper options being suitable for bathing children. The trays are equipped with a special surface protection that prevents the growth of bacteria and mold.

Our shower trays are designed to perfectly complement other RAVAK bathroom products. Our collection includes

shallow acrylic shower trays from the Elipso, Perseus, and Gigant ranges.

They are made from high-quality ABS/PMMA acrylic, which retains its physical properties over time. We back the quality of our products with an extended 5-year warranty.



Product description: Panels

Acrylic panels are used to enclose bathtubs and shower trays, providing a time- and cost-efficient alternative to traditional tiling. To complete the installation of a bathtub or shower tray, it is sufficient to use a panel of the appropriate size, which offers straightforward installation. The panels

are also easy to maintain and service.

Made from high-quality ABS/PMMA acrylic, these panels are designed for long-term durability, providing a guarantee of quality for our customers.



Primary use of products:

All the mentioned products are exclusively designed for use in bathrooms for bathing and personal hygiene purposes.

Certifications Related to Products

Our bathtubs and shower trays carry the CE marking and comply with mandatory standards and legal requirements. A Declaration of Performance (DoP) is issued for these products.

Specific details regarding construction data, as well as mechanical and chemical properties, can be found in the relevant documentation and/or following standards.

Specific information on the design data, mechanical and chemical properties of the products can be found in the relevant literature and/or in the following standards:

EN 14527:2016+A1:2018 Shower trays for domestic purposes;

EN 14516:2015+A1:2016 Baths for domestic purposes;

EN 198:2008 Sanitary fixtures - Sanitary appliances - Baths made from crosslinked cast acrylic sheets - Requirements and test methods;

EN 232:2012 Baths - Baths - Connecting dimensions;

EN 251:2012 Shower trays - Shower trays - Connecting dimensions.

UN CPC code:

36930 Bathtubs, washbasins, toilet bowls and covers, cisterns of plastics

Geographical scope:

The generic data used from the Ecoinvent database are valid for the Czech Republic (e.g. energy inputs) and if data for the Czech Republic are not available, data valid for the EU or according to the supplier's location are used. Based on the evaluation according to EN 15804+A2, Annex E, Tab. E.1, the generic data used meet the quality level - **medium**.

Product packaging:

Products are supplied in accordance with the standards and certificates listed in the product-related certification section. Certified cardboard packaging is made of 100% recycled paper and unprinted for better recyclability. Our own recycling machines for used cardboard packaging allow us to further reuse the used materials in the packaging of new products.

We try to use as little plastic packaging as possible when packaging. We use paper inserts as an alternative to foam or polystyrene.

Environment and health during use:

During the entire production process, no special health protection measures beyond the legally specified industrial protection measures for production employees are required. Due to the areas of use of the product, no environmental impacts and emissions to water, air or soil are expected.

LCA information

Functional unit / declared unit:

The declared unit is 1 kg of the average manufactured product – acrylic bathtubs and shower trays.

Designation	Unit	Value
Declared unit	kg	1
Conversion factor to 1 kg	kg	1

Reference service life:

The reference lifetime is not declared. These are construction products with many different application purposes. The service life of acrylic bathtubs, tubs and panels is normally around 30 years.

Time representativeness:

For specific data, the manufacturer's data for the **year 2021** is used. For generic data, data from the Ecoinvent database version 3.8 is used. Based on the evaluation according to EN 15804+A2, Annex E, tab. E.1 the generic data used meet the quality level - very good.

Database(s) and LCA software used:

SimaPro calculation software, version 9.5 SimaPro Analyst, Ecoinvent database version 3.8.

Description of system boundaries:

Cradle to gate with options, modules C1–C4, module D and with optional modules (A1–A3 + C + D and additional modules). The additional modules may be one or more selected from A4–A5 and/or B1–B7.

The A4 module is used as an additional module - transport to the site.

The production phase includes the following modules:

- **A1** - extraction and processing of raw materials and production of packaging from input raw materials
- **A2** - transport of input raw materials from the supplier to the manufacturer, waste removal
- **A3** - production of products, production of auxiliary materials and semi-finished products, energy consumption, including waste processing until reaching a state where it ceases to be waste or after removal of the last material residues during the production phase.

The construction phase includes the following modules:

- **A4** - transport to the construction site. Transport is carried out by truck with a capacity of 7.5 - 16 t (EURO 6). Transport of the declared product unit over a distance of 1 km is considered.

The end-of-life phase includes modules:

- **C1**, deconstruction, demolition; product from the building, including its dismantling or demolition, including the initial sorting of materials at the construction site. Decomposition and/or dismantling of the product is part of the demolition of the entire building. In this case, it is assumed that the impact on the environment is very small and can be neglected.
- **C2**, transport to the waste processing site; transportation of discarded product as part of waste processing, e.g. to a recycling site, and transportation of waste, e.g. to a final disposal site. The transport from the dismantled building is carried out by a truck with a capacity of 3,5 – 7,5 t (EURO 6) to the inert material dump as a demolition of a mixed building, estimated transport distance: 10 km to the recycling center or to the dump.
- **C3**, waste treatment for reuse, recovery and/or recycling; e.g. collection of waste fractions from deconstruction, and treatment of waste from material streams intended for reuse, recycling and energy recovery. Not expected.
- **C4**, waste disposal including pre-processing and site management. 100% of the dismantled product is disposed of in an inert material landfill, without taking into account the energy recovery of landfill gas from (minor) organic components.

Benefits and costs beyond the product system boundary are presented in module D.

Module D includes:

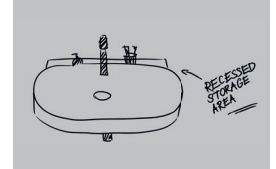
- **D**, potential for reuse, recovery and/or recycling, expressed in net impacts or benefits. In the module D scenario, this is the energy benefit from energy recovery - packaging from the product arising during installation (classified in A4 in the output streams table - polystyrene and further from solid packaging (mixed packaging) - calorific value of approximately 12.5 MJ/kg, Net energy production: 1.39 MJ/kg of electrical energy and 2.85 MJ/kg of thermal energy.

Manufacturing process

The manufacturing process is carried out under our 100% control, enabling us to take deliberate steps toward reducing our carbon footprint.

1. Design and development

Bathtubs and other products are created by top designers in close cooperation with a team of experienced engineers.



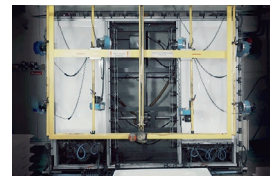
2. PMMA input material

We use the highest-quality sheets from trusted suppliers, which include a portion of recycled material.



3. Shaping

The sheets are heated to the forming temperature. The heating is carried out in sections, with local temperature regulation, ensuring consistent acrylic thickness in the molded part. High-quality radiators provide precise and efficient heating, improving production efficiency. Heating occurs only while the part is being molded; otherwise, the machine automatically switches to energy-saving mode.



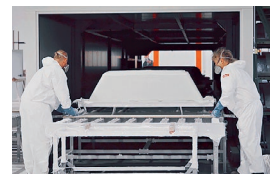
4. Reinforcement with fiberglass laminate

The bathtub molded part is reinforced with a fiberglass laminate spray and chipboard for bottom reinforcement. Styrene emissions from the chemical reaction are incinerated in our styrene incinerator, ensuring eco-friendly handling. Heat generated from this process is utilized in the facility.



5. Curing tunnel

The curing tunnel stabilizes the strength characteristics of the laminate layer of the bathtub.



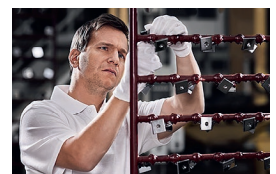
6. Trimming

Edges of the bathtub and waste and overflow openings are trimmed on a CNC machining center to achieve the final shape. Offcuts made of pure PMMA are recycled and returned to suppliers for further processing.



7. Quality control

Our thorough quality control allows us to offer above-standard warranties and ensure long product lifespans.



8. Packaging

The final packaging uses recycled materials and is further recyclable.



More information:

Information module **A5** from the construction phase was not included in the LCA due to the difficult availability of input data and is therefore not declared.

Information modules from the use phase **B1 to B7** are also not declared, as these types of products, assuming correct use, do not require maintenance, repair or replacement during the normal life time in the use phase. They also do not require energy or water consumption during the use phase.

For the study, all operational data related to the consumption of main and auxiliary materials for the production of the product, energy data, diesel consumption and the distribution of annual waste production and emissions according to plant records were taken. In terms of produced waste, only those wastes that are clearly related to production activities were included in the analysis.

The processes required for the installation of production equipment and the construction of infrastructure were not included in the analysis. Also, administrative processes are not included – inputs and outputs are balanced per production phase.

Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	x	x	x	x	ND	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	x
Geography	GLO	GLO, EU	EU, CZ	EU									EU	EU	EU	EU	GLO, EU
Specific data used	> 95 %			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

The data used to calculate the EPD conforms to the following principles:

Technological point of view: Data corresponding to the current production of individual types of partial products of the plant and corresponding to the current state of the technologies used are used.

Based on the evaluation according to EN 15804+A2, Annex E, tab. E.1 the generic data used meet the quality level - very good.

The aspect of completeness and completeness: Most of the input data is based on consumption balances, which are precisely recorded in the manufacturer's information system. The reliability of the source of specific data is determined by the uniformity of the collection methodology of the information system.

Consistency point of view: Uniform points of view are used throughout the report (allocation rules, age of data, technological scope of validity, temporal scope of validity, geographical scope of validity).

Credibility aspect: All important data were checked for adherence to cross-comparison of mass balances. The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

Content information

Product components	Weight %	Post-consumer material, weight-%	Biogenic carbon content in kg C/DU
Polyester resin	35-45	0	0
PMMA acrylic sheet (ABS/PMMA)	25-35	0	0
Fiberglass	15-17	0	0
Chipboard	10-15	0	7,09E-02
Other plastics	< 0,5	0	0
TOTAL	100	0	7,09E-02

Packaging materials	Weight %	Weight-% (versus the product)	Biogenic carbon content kg C/DU
Packaging - paper cardboard	79,09	5,85	0,00E+00
Packaging - PE packaging	20,73	1,53	0,00E+00
Packaging - polystyrene blanks	0,18	0,01	0,00E+00
TOTAL	100	7,4	0,00E+00

Dangerous substances from the candidate list of SVHC for Authorisation	EC No.	CAS No.	Weight-% per functional or declared unit (DU)
None	-	-	-

Substances listed on the list of substances of very high concern subject to authorization by the European Chemicals Agency are not contained in the product in declarable quantities.

Results of the environmental performance indicators

Mandatory impact category indicators according to EN 15804:2012+A2:2019/AC:2021 (characterisation factors based on EF 3.1 package)

Results per functional or declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ ekv.	3,07E+00	2,34E-04	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,56E-03	0,00E+00	5,66E-03	6,30E-03
GWP-biogenic	kg CO ₂ ekv.	2,76E-01	1,83E-06	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,55E-05	0,00E+00	1,38E-04	9,10E-03
GWP-luluc	kg CO ₂ ekv.	3,21E-03	1,07E-07	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,25E-06	0,00E+00	1,11E-06	1,32E-07
GWP - total	kg CO ₂ ekv.	3,35E+00	2,35E-04	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,62E-03	0,00E+00	5,80E-03	1,54E-02
ODP	kg CFC 11 ekv.	9,42E-08	5,10E-12	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,21E-10	0,00E+00	1,96E-10	1,81E-11
AP	mol H ⁺ ekv.	1,65E-02	4,82E-07	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,18E-05	0,00E+00	3,65E-05	3,61E-06
EP-freshwater	kg P ekv.	1,49E-03	1,62E-08	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,71E-07	0,00E+00	2,64E-07	4,64E-07
EP- marine	kg N ekv.	3,34E-03	1,20E-07	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,75E-06	0,00E+00	1,59E-05	1,94E-06
EP - terrestrial	mol N ekv.	2,91E-02	1,21E-06	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,78E-05	0,00E+00	1,71E-04	1,65E-05
POCP	kg NMVOC ekv.	1,16E-02	7,54E-07	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,75E-05	0,00E+00	6,77E-05	4,35E-06
ADP- minerals& metals*	kg Sb ekv.	6,40E-05	7,48E-10	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,42E-08	0,00E+00	5,96E-09	7,79E-10
ADP-fossil*	MJ	5,23E+01	3,29E-03	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,82E-02	0,00E+00	1,44E-01	3,97E-03
WDP*	m ³	1,11E+00	1,27E-05	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,28E-04	0,00E+00	5,24E-04	7,94E-04
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption															

*Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

Additional mandatory and voluntary impact category indicators

Results per functional or declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG ¹	kg CO ₂ ekv.	3,07E+00	2,33E-04	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,56E-03	0,00E+00	5,66E-03	6,28E-03
PM	Disease incidence	1,40E-07	1,46E-11	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,96E-10	0,00E+00	9,22E-10	3,18E-11
IRP	kBq U235 ekv.	4,36E-01	5,33E-06	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,56E-04	0,00E+00	1,37E-04	9,61E-06
ETP- fw	CTUe	2,33E+01	1,44E-03	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,59E-02	0,00E+00	5,25E-02	2,43E-02
HTP-c	CTUh	1,49E-09	4,86E-14	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,40E-12	0,00E+00	1,00E-12	1,69E-13
HTP- nc	CTUh	3,78E-08	7,92E-13	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,01E-11	0,00E+00	2,67E-11	6,19E-12
SQP	dimensionless	3,55E+01	1,69E-03	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,24E-02	0,00E+00	2,97E-01	2,21E-03
Acronyms	GWP-GHG = this indicator includes all greenhouse gases except biogenic uptake and emissions of carbon dioxide and biogenic carbon stored in the product; as such the indicator is identical to GWP-total except that the CF for biogenic CO ₂ is set to zero, PM = Potential incidence of disease due to PM emissions, IRP = Potential Human exposure efficiency relative to U235, ETP-fw = Potential Comparative Toxic Unit for ecosystems, HTP-c = Potential Comparative Toxic Unit for humans, HTP-nc = Potential Comparative Toxic Unit for humans, SQP = Potential soil quality index															

¹This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO₂ is set to zero.

Resource use indicators

Results per functional or declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	7,26E+00	5,74E-05	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,70E-03	0,00E+00	2,86E-03	1,35E-04
PERM	MJ	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	7,26E+00	5,74E-05	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,70E-03	0,00E+00	2,86E-03	1,35E-04
PENRE	MJ	5,62E+01	3,50E-03	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,31E-02	0,00E+00	1,53E-01	4,29E-03
PENRM	MJ	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	5,62E+01	3,50E-03	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,31E-02	0,00E+00	1,53E-01	4,29E-03
SM	kg	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,51E-01
NRSF	MJ	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m ³	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water															

Additional environmental information - Waste indicators

Results per functional or declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste disposed	kg	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Non-hazardous waste disposed	kg	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	1,00E+00	0,00E+00
Radioactive waste disposed	kg	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Additional environmental information - Output flow indicators

Results per functional or declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	1,36E-02	7,38E-02	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery	kg	1,20E-02	1,27E-04	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, electricity	MJ	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,68E-02
Exported energy, thermal	MJ	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,45E-02

The result tables shall only contain values or the letters "ND" (Not Declared). It is not possible to specify ND for mandatory indicators. ND shall only be used for voluntary parameters that are not quantified because no data is available.

Other environmental performance indicators

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Additional environmental information

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Reference

ČSN ISO 14025:2010 Environmentální značky a prohlášení - Environmentální prohlášení typu III - Zásady a postupy (Environmental labels and declarations - Type III environmental declarations - Principles and procedures)

ČSN EN 15804+A2:2020 Udržitelnost staveb - Environmentální prohlášení o produktu - Zásadní pravidla pro produktovou kategorii stavebních výrobků (Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products)

ČSN EN ISO 14040:2006 Environmentální management - Posuzování životního cyklu - Zásady a osnova (Environmental management - Life Cycle Assessment - Principles and Framework)

ČSN EN ISO 14044:2006 Environmentální management - Posuzování životního cyklu - Požadavky a směrnice (Environmental management - Life Cycle Assessment - Requirements and guidelines)

ČSN ISO 14063:2007 Environmentální management - Environmentální komunikace - Směrnice a příklady (Environmental management - Environmental communication - Guidelines and examples)

ČSN EN 15643-1:2011 Udržitelnost staveb - Posuzování udržitelnosti budov - Část 1: Obecný rámec (Sustainability of construction works - Sustainability assessment of buildings - Part 1: General framework)

ČSN EN 15643-2:2011 Udržitelnost staveb - Posuzování udržitelnosti budov - Část 2: Rámec pro posuzování environmentálních vlastností (Sustainability of construction works - Assessment of buildings - Part 2: Framework for the assessment of environmental performance)

ČSN EN 15942:2013 Udržitelnost staveb - Environmentální prohlášení o produktu - Formát komunikace mezi podniky (Sustainability of construction works - Environmental product declarations - Communication format business-to-business)

TNI CEN/TR 15941:2012 Udržitelnost staveb - Environmentální prohlášení o produktu - Metodologie výběru a použití generických dat (Sustainability of construction works - Environmental product declarations - Methodology for selection and use of generic data)

ČSN EN 16449:2014 Dřevo a výrobky na bázi dřeva - Výpočet obsahu biogenního uhlíku ve dřevě a přeměny na oxid uhličitý (Wood and wood-based products - Calculation of the biogenic carbon content of wood and conversion to carbon dioxide)

ILCD handbook - JRC EU, 2011

Zákon č. 541/2020 Sb. v platném znění (Zákon o odpadech); Act No. 541/2020 Coll., as amended (Waste Act)

Vyhláška č. 8/2021 Sb. Katalog odpadů - Katalog odpadů, (Decree No. 8/2021 Coll. Waste catalogue - Waste catalogue)

Nařízení Evropského parlamentu č. 1907/2006 o registraci, hodnocení, povolování a omezování chemických látek a o zřízení Evropské agentury pro chemické látky - REACH (registrace, evaluace a autorizace chemických látek); (Regulation (EC) No 1907/2006 of the European Parliament concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and establishing a European Chemicals Agency - REACH (Registration, Evaluation and Authorisation of Chemicals)

Nařízení Evropského parlamentu a Rady (ES) č. 1272/2008 o klasifikaci, označování a balení látek a směsí, o změně a zrušení směrnic 67/548/EHS a 1999/45/ES a o změně nařízení (ES) č. 1907/2006 (nařízení CLP),

SimaPro LCA Package, Pré Consultants, the Netherlands , www.pre-sustainability.com

Ecoinvent Centre, www.Ecoinvent.org

Explanatory documents are available from the head of Technical Support of the EPD owner.